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Reply to Office action of August 22, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

5   1. (Currently Amended) A system for monitoring events in a storage area network, comprising:

a fibre channel fabric switch element having a port monitoring agent that monitors at least a parameter value and detects when a parameter value varies from a threshold value stored in a threshold table for a parameter, wherein the port monitoring agent sends a message to a performance monitoring module that sends a message to an Event Response Director that selects an

10   event in an Event Response Table and sends control signals to a Local Event Handler and an External Event Generator, and the Local Event Handler performs control actions on a local fabric switch and the External Event Generator sends input/output registered state change notices to host computing systems; and the Event Response Table and the threshold table is updated by a Threshold Event Configuration module based on historical data. to process an event when the

15   parameter value varies from the threshold value.

2. (Cancelled).

3. (Previously Amended) The system of Claim 1, wherein the performance monitoring module notifies a host computer when the parameter value varies from the threshold value.

4. (Previously Amended) The system of Claim 1, wherein a fibre channel port with a parameter

20   value that varies from the threshold value is taken off-line.

5. (Currently Amended) A system for monitoring events in a storage area network, comprising:

a fabric monitoring module in a fibre channel fabric switch element, wherein the fabric monitoring module detects when a remote fabric switch and a local fabric switch cannot exchange information and then sends a message to a performance monitoring module that sends a

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message to an Event Response Director that selects an event in an Event Response Table and

sends control signals to a Local Event Handler and an External Event Generator, and the Local

Event Handler performs control actions on a local fabric switch and the External Event Genera-

tor sends input/output registered state change notices to host computing systems; and the Event

5   Response Table and the threshold table are updated by a Threshold Event Configuration module

based on historical data..

6. (Previously Amended) The system of Claim 5, wherein a host system is notified by the per-

formance monitoring module that the remote and the local fabric switch cannot exchange infor-

mation.

10   7. (Currently Amended) A system for monitoring events in a storage area network, comprising:

a chassis monitoring module in a fibre channel fabric switch element THAT detects when

an indicator value for a switch chassis of the fibre channel fabric switch element varies from a

threshold value and notifies a performance monitoring module of the variation and the perform-

ance monitoring module sends a message to an Event Response Director that selects an event in

15   an Event Response Table and sends control signals to a Local Event Handler and an External

Event Generator; and the Local Event Handler performs control actions on a local fabric switch;

and the External Event Generator sends input/output registered state change notices to host com-

puting systems; and the Event Response Table and the threshold table is updated by a Threshold

Event Configuration module based on historical data.

20   8. (Previously Amended) The system of Claim 7, wherein a host computer is notified of the

variation by the performance monitoring module.

9.   (Previously Amended)The system of Claim 7, wherein a remote fabric switch is notified of

the variation by the performance monitoring module.

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10. (Currently Amended) A system for monitoring events in a storage area network, comprising:

a performance monitoring module in a fibre channel fabric switch element that receives a message from at least one monitoring agent indicating if a parameter value varies from a thresh-

5   old value, and in response to the message, the performance monitoring module ~~coordinates an event that~~ sends a message to an Event Response Director that selects an event in an Event Response Table and sends control signals to a Local Event Handler and an External Event Generator, and the Local Event Handler performs control actions on a local fabric switch and the External Event Generator sends input/output registered state change notices to host computing sys-

10 tems; and the Event Response Table and the threshold table is updated by a Threshold Event Configuration module .

11. (Currently Amended) The system of Claim 10, wherein the threshold values ~~used by the monitoring agent are stored in a~~ in the threshold table are updated based on a user request.

12. (Previously Amended) The system of Claim 10, wherein the monitoring agent includes a

15 Chassis monitoring module, a fabric monitoring module, a port monitoring module, and/or a Nx_Port event monitoring module.

13. (Currently Amended) The system of Claim 1<u>0</u> ~~1~~, wherein the threshold values are updated based on historical data and/or reliability data.

14. (Currently Amended) The system of Claim 10, wherein the performance monitoring mod-

20 ule consolidates threshold events and control signals sent by plural monitoring agents, if a threshold value for a parameter is exceeded. ~~notifies an event response module when an indicator value varies from a threshold value.~~

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15. (Currently Amended) The system of Claim 10 14, wherein an event is generated in response to the notification based on an the event response table.

16. (Currently Amended) The system of Claim 10 14, wherein the event response module notifies a host computer of the variation.

5   17. (Currently Amended) A method for monitoring events in a storage area network, comprising:

monitoring at least one parameter value, wherein at least one monitoring agent in a fibre channel fabric switch monitors the parameter value;

comparing the parameter value to a threshold value; and

10   notifying a performance monitoring module if the parameter value varies from the threshold value; wherein the performance monitoring module sends a message to an Event Response module that selects an event in an Event Response Table and sends control signals to a Local Event Handler and an External Event Generator, and the Local Event Handler performs control actions on a local fabric switch and the External Event Generator sends input/output reg-

15   istered state change notices to host computing systems; and the Event Response Table and the threshold table is updated by a Threshold Event Configuration module based on historical data..

18. (Previously Amended) The method of Claim 17, further comprising:

consolidating plural threshold variations and notifying an event response module of the variations, wherein the performance monitoring module consolidates plural threshold variations.

20   19. (Previously Amended)The method of Claim 18, further comprising:

generating an event in response to a threshold variation.

20. (Previously Amended) The method of Claim 18, further comprising:

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notifying a host computer of the threshold variation, wherein the performance monitoring

module notifies the host computer.

21. (Currently Amended) A system for notifying a computing system of an indicator that pre-

cedes a failure in a storage area network, comprising:

5   at least one monitoring agent in a fibre channel fabric switch element that monitors an in-

dicator that can result in a failure in the storage area network; and

a performance monitoring module that compares an indicator value to a threshold value

and coordinates an event if the indicator value varies from the threshold value, wherein the per-

formance monitoring module sends a message to an Event Response Director that selects an

10   event in an Event Response Table and sends control signals to a Local Event Handler and an Ex-

ternal Event Generator, and the Local Event Handler performs control actions on a local fabric

switch and the External Event Generator sends input/output registered state change notices to

host computing systems; and the Event Response Table and the threshold table is updated by a

Threshold Event Configuration module .

15   22.   (Currently Amended) The system of Claim 21, wherein a the threshold table is maintains

the threshold value that can be updated based on historical data and/or reliability data.

23.   (Previously Amended) The system of Claim 22, wherein the monitoring agent includes at

least a chassis monitor, port monitor, Nx_Port monitor, and/or fabric monitor.

24. (Previously Amended) The system of Claim 23, wherein the chassis monitor detects when

20   an indicator value for a switch chassis varies from a threshold value and notifies the performance

monitoring module of the variation.

25. (Previously Amended) The system of Claim 23, wherein the port monitoring module tracks

port statistics for fibre channel ports and sends a message to the performance monitoring module

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to process an event when a fibre channel port link indicator value varies from the threshold

value.

26. (Previously Amended) The system of Claim 23, wherein the fabric monitoring module detects when a

remote fabric switch and a local fabric switch cannot exchange information and then sends a message to

5   the performance monitoring module.

27. (Currently Amended) A fibre channel fabric switch element, comprising:

     a port monitoring agent that monitors at least a parameter value and detects when a pa-

rameter value varies from a threshold value for a parameter, wherein the port monitoring agent

sends a message to a performance monitoring module to process an event when the parameter

10   value varies from the threshold value; wherein the performance monitoring module sends a mes-

sage to an Event Response Director that selects an event in an Event Response Table and sends

control signals to a Local Event Handler and an External Event Generator, and the Local Event

Handler performs control actions on a local fabric switch and the External Event Generator sends

input/output registered state change notices to host computing systems; and the Event Response

15   Table and the threshold table is updated by a Threshold Event Configuration module .

28. (Previously Presented) The switch element of Claim 27, wherein the performance monitor-

ing module notifies a host computer when the parameter value varies from the threshold value.

29. (Previously Presented) The switch element of Claim 28, wherein a fibre channel port with a

parameter value that varies from the threshold value is taken off-line.

20   30.   (Cancelled)

    31.   (Cancelled)

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32. (Previously Presented) The switch element of Claim 27, wherein the monitoring agent includes a Chassis monitoring module, a fabric monitoring module, a port monitoring module, and/or a Nx_Port event monitoring module.

33. (Previously Presented) The switch element of Claim 32, wherein the fabric monitoring mod-

5   ule detects when a remote fabric switch and a local fabric switch cannot exchange information.

34. (Previously Presented) The switch element of Claim 32, wherein the chassis monitor detects when an indicator value for a switch chassis varies from a threshold value and notifies the performance monitoring module of the variation.

35. (Previously Presented) The switch element of Claim 32, wherein the port monitoring module

10   tracks port statistics for fibre channel ports and sends a message to the performance monitoring module to process an event when a fibre channel port link indicator value varies from the threshold value.

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